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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/077,185

02/15/2002

Christoph Schwald

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07/16/2004

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EXAMINER

CHIANG, JACK

ART UNIT

PAPER NUMBER

2642

9

DATE MAILED: 07/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077185

Applicant(s)

C. Schwald

Examiner

J. Chiang

Group Art Unit

2642

9

--The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address--

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE -3- MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 2-15-02
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-6 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-6 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of References Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

CLAIMS

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by De Roo et al. (US 2002/0094101).

Regarding claim 1, De Roo shows:

A microphone housing (housing 30);

A microphone capsule (enclosing/supporting 39 or 70);

Front sound entry openings (32);

Front volume (36);

Rear sound entry openings (34);

Rear volume (38);

The front and rear volumes are in communication with front and rear sound entry openings of the microphone capsule respectively;

A connecting volume (i.e. 80) connecting the front volume (36) and the rear volume (38).

Regarding claims 2 and 5, De Roo shows:

The connecting volumes can be narrow ducts (80 or 42);

Knobs or webs (40 or 72) for supporting the microphone capsule.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toki (US 6091830) in view of De Roo et al.

Claims 3-4, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Roo et al in view of Toki .

Regarding claim 1, Toki shows:

A microphone housing (9);

A microphone capsule (11);

Front sound entry openings (2);

Front volume (space for 4);

Rear sound entry openings (8);

Rear volume (space for 7);

The front and rear volumes are in communication with front and rear sound entry openings of the microphone capsule respectively.

Toki differs from the claimed invention in that it does not have a connecting volume connecting the front volume and the rear volume.

However, De Roo teaches providing a connecting volume (i.e. 80) connecting the front volume (36) and the rear volume (38) in a microphone housing design.

Hence, it would have been obvious for one of ordinary skill in the art to modify Toki's microphone housing with a connecting volume connecting the front volume and the rear volume as taught by De Roo, this modification would improve low frequency roll-off for the microphone (see Abstract in De Roo).

Regarding claims 2 - 6, the combination of Toki and De Roo shows:

The connecting volumes can be narrow ducts, or annular gap can be considered as a design preference as long as it can achieve the same function as the ducts (80, page 3, paragraph 0043 in De Roo);

Sound permeable foam components (4, 7 in Toki);


Knobs or webs (40 or 72 in De Roo; 10 in Toki) for supporting the microphone capsule;

Further, the height of the front volume is dictated by the design criteria for the microphone frequency pattern, and is considered as a design preference and would have been obvious for one of ordinary skill in the art. In other words, the height of the front volume can be varied depending on what the microphone frequency pattern is in the design criteria.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Chiang whose telephone number is 703-305-4728. The examiner can normally be reached on Mon.-Fri. from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar, can be reached on 703-305-4731. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jack Chiang
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Art Unit 2642